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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,558

09/19/2005

Rainer Pietig

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07/20/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

HANNON, CHRISTIAN A

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

07/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,558	Applicant(s) PIETIG, RAINER	
	Examiner Christian A. Hannon	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martek et al (US 6,522,897), hereinafter Martek, in view of Ayasli (US 4,801,901).

Regarding claims 1 & 6, Martek teaches a circuit and device arrangement for a mobile radio device comprising a power divider, Wilkinson splitter, for dividing a high frequency transmit signal over at least two antennas spatially arranged mutually apart and comprising at least one phase shifter connected between one of the antennas and the power divider for generating a phase difference between the transmit signals radiated by the antennas (Column 1, Lines 28-34; Column 7, Lines 10-15; Figure 1, Items 101, 102, 146A, 145A; Martek). However Martek fails to explicitly teach that the phase shifter is arranged as a non-reciprocal phase shifter so that high-frequency receive signals received from the antennas are applied to the power divider without a phase difference wherein the non-reciprocal phase shifter is a three-port circulator. Ayasli teaches a non-reciprocal phase shifter that is a three-port circulator (Column 2, Lines 3-6, 10-11; Column 3, Lines 51-55; Ayasli). Ayasli teaches that in the case when

receiving particular high frequency signals that the reverse path would induce a zero degree resultant phase shift, which thereby reads on the currently recited applicant claim language. Furthermore it would have been obvious to one of ordinary skill in the art to combine the teachings of Martek with those of Ayasli in order to implement a phase shifting circulator whose size is smaller, design is simpler and cost is less expensive. Lastly it is noted that while the applicant claims "a mobile radio device" in claim 6; the device itself does not have to be mobile as the examiner has interpreted it as a mobile radio device in the sense that it is a part of a mobile radio device (i.e. the base station).

Regarding claim 2, Martek & Ayasli teach the circuit arrangement as claimed in claim 1, characterized in that the antennas are dipole antennas (Column 6, Lines 64-65; Martek).

Regarding claim 3, Martek and Ayasli teach claim 2, characterized in that the dipole axes of the antennas are aligned parallel to each other (Figure 1, Items 101 & 102; Martek).

Regarding claim 4, Martek and Ayasli teach claim 1, characterized in that the distance between the antennas is smaller than the wavelength of the transmit mode and receive signals and in that the phase difference between the transmit signals radiated by the antennas is 180 degrees at the most (Column 5, Lines 1-15; Martek).

Regarding claim 5, Martek and Ayasli teach claim 4, further they teach wherein the circuit is characterized in that the distance between the antennas corresponds to one or tow tenths of the wavelength of the transmit mode and receive signals and in that

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the phase difference between the transmit signals radiated by the antennas is 100 to 145 degrees. As shown it is obvious that the antenna can be at most 180 degrees therefore the range of 100 to 145 degrees fits within this range. Furthermore the placement of the antennas with no specific novel result is rendered as an obvious design choice (Column 5, Lines 1-15; Martek).

Regarding claim 7, Martek and Ayasli teach claim 6, characterized in that the dipole axes of the antennas are aligned parallel to each other (Figure 1, Items 101 & 102; Martek).

Regarding claim 8, Martek and Ayasli teach claim 7, characterized in that the antennas of the mobile radio device are arranged at different distances from the head of a user of the mobile radio device (Column 1, Lines 28-34; Martek).

Response to Arguments

3. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



C. A. Hannon
July 16, 2007


7-18-2007

NGUYEN T. VO
PRIMARY EXAMINER